

What is claimed is:

1. A runtime-resource management-method for use with a portable device, said method comprising the steps of:

identifying one or more new application components, each of said one or more new  
5 application components having an associated RDL;  
determining maximum required runtime resources for said one or more new application  
components from said associated RDLs;  
determining CARSRMAX in the portable device;  
comparing said maximum required runtime resources to said CARSRMAX; and  
10 prohibiting said one or more new application components from loading if said  
CARSRMAX is less than said maximum required runtime resources.

2. The method of claim 1, wherein said step of determining said CARSRMAX comprises  
the steps of:

determining total runtime system resources in the portable device;  
15 determining total maximum reserved runtime resources for loaded application components  
within said portable device; and  
calculating said CARSRMAX based on said total runtime system resources and said total  
maximum reserved runtime resources.

3. The method of claim 2, further comprising the steps of:

removing one or more of said loaded application components within said portable device;

and

releasing maximum runtime resources reserved for said one or more loaded application components within said portable device, thereby increasing said CARSRMAX in the portable device.

4. The method of claim 1, wherein said CARSRMAX comprises requirements for at least one or more runtime system resources selected from a group consisting of RAM, threads, and sockets.

5. A runtime-resource management-method for use with a portable device, said method comprising the step of:

reserving maximum runtime resources required for each application component loaded into the portable device.

6. The method of claim 5, further comprising the step of:

running one or more of said loaded application components on the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

7. The method of claim 6, wherein said running step comprises the steps of:

opening said one or more loaded application components;

monitoring requests for runtime resources by each of said one or more loaded application components;

comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more loaded application components; and

preventing each of said one or more loaded application components from using more than said maximum required runtime resources reserved for each of said one or more loaded application components.

8. The method of claim 5, wherein said reserving step comprises:

allocating a segment of RAM within the portable device to each of said loaded application components based on RAM requirements in an RDL associated with each of said loaded application component for use by said loaded application component.

9. The method of claim 5, further comprising the steps of:

running one or more of said loaded application components using said allocated segments of RAM

monitoring RAM use by said one or more loaded application components; and

preventing each of said one or more loaded application components from using more than said segment of RAM allocated to each of said one or more loaded application components.

10. The method of claim 5, wherein said reserving step comprises:

writing thread requirements to a thread table for each of said loaded application component based on thread requirements in an RDL associated with each of said loaded application components.

11. The method of claim 10, further comprising the steps of:

running one or more of said loaded application components;  
monitoring thread use by said one or more loaded application components; and  
preventing each of said one or more loaded application components from using more threads than said thread requirements listed on said thread table for each of said one or more loaded application components.

12. The method of claim 5, wherein said reserving step comprises:

writing socket requirements to a socket table for each of said loaded application component based on socket requirements in a RDL associated with each of said loaded application components.

13. The method of claim 12, further comprising the steps of:

running one or more of said loaded application components;  
monitoring socket use by said one or more loaded application components; and  
preventing each of said one or more loaded application components from using more

sockets than said socket requirements listed on said socket table for each of said one or more loaded application components.

14. A system for managing runtime resources in a portable device, said system comprising:

means for identifying one or more new application components, each of said one or more new application components having an associated RDL;

means for determining maximum required runtime resources for said one or more new application components from said associated RDLs;

means for determining CARSRMAX in the portable device;

means for comparing said maximum required runtime resources to said CARSRMAX; and

means for prohibiting said one or more new application components from loading if said CARSRMAX is less than said maximum required runtime resources.

15. The system of claim 14, wherein said means for determining said CARSRMAX comprises:

means for determining total runtime system resources in the portable device;

means for determining total maximum reserved runtime resources for loaded application components within said portable device; and

means for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

16. The system of claim 15, further comprising:

means for removing one or more of said loaded application components within said portable device; and

means for releasing maximum runtime resources reserved for said one or more loaded

5 application components within said portable device, thereby increasing said CARSRMAX in the portable device.

17. A system for managing runtime resources in a portable device, said system comprising:

means for reserving maximum runtime resources required for each application component  
10 loaded into the portable device.

18. The system of claim 17, further comprising:

means for running one or more of said loaded application components on the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

15 19. The system of claim 18, wherein said means for running comprises:

means for opening said one or more loaded application components;

means for monitoring requests for runtime resources by each of said one or more loaded application components;

means for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more loaded application components; and

means for preventing each of said one or more loaded application components from using more than said maximum required runtime resources reserved for each of said one or more loaded application components.

20. A computer program product for managing system resources in a portable device, said computer program product comprising:

computer readable program code embodied in a computer readable medium, the computer readable program code comprising at least:

computer readable program code for identifying one or more new application components, each of said one or more new application components having an associated RDL;

computer readable program code for determining maximum required runtime resources for said one or more new application components from said associated RDLs;

computer readable program code for determining CARSRMAX in the portable device;

computer readable program code for comparing said maximum required runtime resources to said CARSRMAX; and

computer readable program code for prohibiting said one or more new application components from loading if said CARSRMAX is less than said maximum required runtime

resources.

21. The product of claim 20, wherein said computer readable program code for determining said CARSRMAX comprises:

computer readable program code for determining total runtime system resources in the portable device;

computer readable program code for determining total maximum reserved runtime resources for loaded application components within said portable device; and

computer readable program code for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

22. The product of claim 21, wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for removing one or more of said loaded application components within said portable device; and

computer readable program code for releasing maximum runtime resources reserved for said one or more loaded application components within said portable device, thereby increasing said CARSRMAX in the portable device.

23. A computer program product for managing system resources in a portable device, said computer program product comprising:



computer readable program code embodied in a computer readable medium, the computer readable program code comprising at least:

computer readable program code for reserving maximum runtime resources required for each application component loaded into the portable device.

5 24. The product of claim 23, wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for running one or more of said loaded application components on the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

10 25. The product of claim 24, wherein said computer readable program code for running comprises:

computer readable program code for opening said one or more loaded application components;

15 computer readable program code for monitoring requests for runtime resources by each of said one or more loaded application components;

computer readable program code for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more loaded application components; and

computer readable program code for preventing each of said one or more loaded

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application components from using more than said maximum required runtime resources reserved  
for each of said one or more loaded application components.

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